

Appl. No. 09/917,088
Amdt. dated 6/28/2005
Reply to the Advisory Action of 06/17/2005

Listing of Claims:

1. (Currently Amended) A method of delivering information to a plurality of networked devices, the method comprising the steps of:

receiving a first request from a first networked device, the first request requesting a first portion of information to be delivered to the first networked device as an ordinary unicast packet;

receiving a second request from a second networked device, the second request requesting a second portion of information to be delivered to the second networked device as an ordinary unicast packet, the second portion of information requested including an overlapping portion of information that overlaps the first portion of information requested by the first request;

collecting the first request and second request into a bucket; and

creating a combined response in response to the first request from the first networked device and the second request from the second networked device, the combined response including the overlapping portion of information requested by the first and second networked devices, the overlapping portion of information destined for reception by the first networked device and by the second networked device, ~~the combined response including the overlapping portion of information requested by the first and second networked devices~~, wherein the combined response comprises a multicast packet.

2. (Currently Amended) The method of claim 1, further comprising the step of providing the combined response including the overlapping portion of information to a network interface, the ~~combined response~~ overlapping portion of information being destined for reception by the first and second networked devices.

3. (Original) The method of claim 1, wherein the combined response comprises at least one TCP packet destined for reception by the first and second networked devices.

4. (Currently Amended) The method of claim 3, wherein the least one TCP packet utilizes multicast transmission for ~~delivering~~ transmitting the at least one packet to the first and second networked devices.

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5. (Original) The method of claim 4, wherein the multicast transmission comprises a Small Group Multicast protocol.
6. (Original) The method of claim 1, wherein at least one of the first request and the second request comprises an acknowledgment (ACK) requesting a portion of information.
7. (Original) The method of claim 1, wherein at least one of the first request and the second request comprises an HTTP request requesting a portion of information.
8. (Original) The method of claim 7, wherein the HTTP request includes a URL to at least partially identify a requested portion of information.
9. (Original) The method of claim 1, further comprising the step of determining that a retransmit time associated with communication with the first networked device is substantially the same as a retransmit time associated with communication with the second networked device.
10. (Previously Presented) The method of claim 9, further comprising the step of retransmitting the overlapping portion of information to the first and second networked devices by using multicast transmission.

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11. (Currently Amended) A computer readable medium including computer instructions for an information serving system, the computer instructions comprising instructions for:

receiving a first request from a first networked device, the first request requesting a first portion of information to be delivered to the first networked device as an ordinary unicast packet;

receiving a second request from a second networked device, the second request requesting a second portion of information to be delivered to the second networked device as an ordinary unicast packet, the second portion of information requested including an overlapping portion of information that overlaps the first portion of information requested by the first request;

collecting the first request and second request into a bucket; and

creating a combined response in response to the first request from the first networked device and the second request from the second networked device, the combined response including the overlapping portion of information requested by the first and second networked devices, the overlapping portion of information destined for reception by the first networked device and by the second networked device, ~~the combined response including the overlapping portion of information requested by the first and second networked devices~~, wherein the combined response comprises a multicast packet.

12. (Currently Amended) The computer readable medium of claim 11, further including computer instructions for:

providing the combined response including the overlapping portion of information to a network interface, ~~the combined response~~ overlapping portion of information being destined for reception by the first and second networked devices.

13. (Original) The computer readable medium of claim 12, wherein the combined response comprises at least one TCP packet destined for reception by the first and second networked devices.

14. (Currently Amended) The computer readable medium of claim 13, wherein the least one TCP packet utilizes multicast transmission for ~~delivering~~ transmitting the at least one packet to the first and second networked devices.

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15. (Original) The computer readable medium of claim 14, wherein the multicast transmission comprises a Small Group Multicast protocol.

16. (Original) The computer readable medium of claim 11, wherein at least one of the first request and the second request comprises an acknowledgment (ACK) requesting a portion of information.

17. (Original) The computer readable medium of claim 11, wherein at least one of the first request and the second request comprises an HTTP request requesting a portion of information.

18. (Original) The computer readable medium of claim 17, wherein the HTTP request includes a URL to at least partially identify a requested portion of information.

19. (Original) The computer readable medium of claim 11, further including computer instructions for:

determining that a retransmit time associated with communication with the first networked device is substantially the same as a retransmit time associated with communication with the second networked device.

20. (Previously Presented) The computer readable medium of claim 19, further including computer instructions for:

retransmitting the overlapping portion of information to the first and second networked devices by using multicast transmission.

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21. (Currently Amended) An information serving system, comprising:

a plurality of networked devices including first and second networked devices; and
an information server comprising:

a network interface for communication at least with the plurality of networked devices;

a controller communicatively coupled to the network interface;

a data memory for storing data including

content,

a first request corresponding to the first networked device, the first request requesting a first portion of the content to be delivered to the first network device as an ordinary unicast packet, and

a second request corresponding to the second networked device, the second request requesting a second portion of content to be delivered to the second networked device as an ordinary unicast packet, the second portion of content requested including an overlapping portion of content that overlaps the first portion of content requested by the first request; and

a program memory for storing computer program instructions for the controller, the computer instructions including instructions for

collecting the first request and second request into a bucket, and

creating a combined response in response to the first request from the first networked device and the second request from the second networked device, the combined response including the overlapping portion of content requested by the first and second networked devices, the overlapping portion of content destined for reception by the first networked device and by the second networked device, ~~the combined response including the overlapping portion of content requested by the first and second networked devices~~, wherein the combined response comprises a multicast packet.

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22. (Currently Amended) The information serving system of claim 21, further comprising:
a portion transmitter, communicatively coupled to the controller, for providing the combined response including the overlapping portion of content to a network interface, the ~~combined response~~ overlapping portion of content being destined for reception by the first and second networked devices.
23. (Original) The information serving system of claim 21, wherein the combined response comprises at least one TCP packet destined for reception by the first and second networked devices.
24. (Currently Amended) The information serving system of claim 23, wherein the least one TCP packet utilizes multicast transmission for ~~delivering~~ transmitting the at least one packet to the first and second networked devices.
25. (Original) The information serving system of claim 24, wherein the multicast transmission comprises a Small Group Multicast protocol.
26. (Original) The information serving system of claim 21, wherein at least one of the first request and the second request comprises an acknowledgment (ACK) requesting a portion of information.
27. (Original) The information serving system of claim 21, wherein at least one of the first request and the second request comprises an HTTP request requesting a portion of information.
28. (Original) The information serving system of claim 27, wherein the HTTP request includes a URL to at least partially identify a requested portion of information.

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29. (Original) The information serving system of claim 21, further comprising a retransmit timer, communicatively coupled to the controller, for determining that a retransmit time associated with communication with the first networked device is substantially the same as a retransmit time associated with communication with the second networked device.

30. (Previously Presented) The information serving system of claim 29, wherein the computer instructions further including instructions for:

retransmitting the overlapping portion of information to the first and second networked devices by using multicast transmission.

31. (Original) The information serving system of claim 30, wherein the multicast transmission comprises a Small Group Multicast protocol.

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32. (Currently Amended) An information server, comprising:

a network interface for communication to first and second networked devices;

a controller communicatively coupled to the network interface;

a data memory for storing data including
content,

a first request corresponding to the first networked device, the first request requesting a first portion of the content to be delivered to the first networked device as an ordinary unicast packet, and

a second request corresponding to the second networked device, the second request requesting a second portion of content to be delivered to the second networked device as an ordinary unicast packet, the second portion of content requested including an overlapping portion of content that overlaps the first portion of content requested by the first request; and

a program memory for storing computer program instructions for the controller, the computer instructions including instructions for

collecting the first request and second request into a bucket, and

creating a combined response in response to the first request from the first networked device and the second request from the second networked device, the combined response including the overlapping portion of content requested by the first and second networked devices, the overlapping portion of content destined for reception by the first networked device and by the second networked device, ~~the combined response including the overlapping portion of content requested by the first and second networked devices~~, wherein the combined response comprises a multicast packet.

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33. (Currently Amended) The information server of claim 32, further comprising:

a portion transmitter, communicatively coupled to the controller, for providing the combined response including the overlapping portion of content to a network interface, the ~~combined response~~ overlapping portion of content being destined for reception by the first and second networked devices.

34. (Currently Amended) The information server of claim 33, wherein the portion transmitter provides the combined response including the overlapping portion of content to the network interface for transmitting the combined response by using multicast transmission for delivering the ~~combined response~~ overlapping portion of content to the first and second networked devices.

35. (Original) The information server of claim 32, further comprising a retransmit timer, communicatively coupled to the controller, for determining that a retransmit time associated with communication with the first networked device is substantially the same as a retransmit time associated with communication with the second networked device.

36. (Previously Presented) The information server of claim 35, wherein the computer instructions further including instructions for:

retransmitting the overlapping portion of content requested by the first and second networked devices by using multicast transmission for delivering the same portion of content to the first and second networked devices.

37. (Original) The information server of claim 36, wherein the multicast transmission comprises a Small Group Multicast protocol.

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38. (New) The method of claim 1, wherein the multicast packet comprises information for each of the first networked device and the second networked device, the information for creating a first unicast packet destined for reception by the first networked device and a second unicast packet destined for reception by the second networked device, and wherein each of the first unicast packet and the second unicast packet include at least the overlapping portion of information to be delivered to the first networked device and the second networked device, respectively.

39. (New) The information serving system of claim 21, wherein the multicast packet comprises information for each of the first networked device and the second networked device, the information for creating a first unicast packet destined for reception by the first networked device and a second unicast packet destined for reception by the second networked device, and wherein each of the first unicast packet and the second unicast packet include at least the overlapping portion of information to be delivered to the first networked device and the second networked device, respectively.